



EXAMINING THE INTERPLAY OF DIRECT TAXATION AND MACROECONOMIC FACTORS IN INDIAN ECONOMY

Mr. HARISH V B

Research Scholar

Department of Commerce

Vijayanagara Sri Krishnadevaraya University, Ballari – 583105, Karnataka.

harishvb59@gmail.com

ABSTRACT:

This study aims to explore the nexus between taxation and macroeconomic variables, specifically focusing on their impact on India's GDP from the fiscal year 2004-05 to 2022-23. The methodology involves descriptive analysis to assess data normality, correlation analysis to examine relationships between dependent and independent variables, and linear regression to evaluate the outcomes and validate hypotheses. The findings reveal significant influences of two independent variables on GDP: fiscal deficit exhibits a Positive relationship, while personal tax demonstrates a strong positive correlation. Both hypotheses are rejected due to the substantial effects on GDP. The study recommends policy measures to broaden the tax base, suggesting avenues for tax base expansion to enhance revenue generation, and advocates for increased emphasis on personal tax revenue to mitigate fiscal deficit.

Keywords: Taxation, Direct tax, GDP, Fiscal deficit, Macro-economic, Personal tax, corporate tax, other direct tax.

1. INTRODUCTION:

In India, Income Tax administration falls under Entry 82 of the Union List of the Seventh Schedule to the Constitution of India, granting authority to Parliament to levy and collect taxes as per legislation. The primary legislation governing Income Tax is the Income-tax Act of 1961, effective since April 1, 1962, covering Sections 1 to 298 and Schedules I to XIV. This Act undergoes annual amendments through the Finance Act passed by Parliament and other relevant legislations such as the Taxation Laws (Amendment) Act. Additionally, the Central Board of Direct Taxes (CBDT) issues circulars and notifications to address specific issues and provide clarity. Income Tax is levied on individuals' (non-corporate) and businesses' (corporate) income generated within the country. The income earned by various entities specified under section 2(31) during the previous year is taxable in the assessment

year, in accordance with the provisions of the Act. Personal income tax applies to individuals' salaries, wages, and other sources of income, while corporate tax is applicable to partnerships, small businesses, corporations, and self-employed individuals. These incomes fall under five heads for tax assessment: Salaries, House Property, Profession and Business, Capital Gains, and Other Sources Income.

2. PURPOSE OF THE STUDY:

The aim of this study is to explore the relationship between taxation and various macroeconomic factors, particularly focusing on the significant role of income tax in revenue generation and its impact on India's GDP. The study seeks to analyse the influence of direct taxes, including personal tax, corporate tax, and other direct taxes, on GDP, alongside considering the effect of fiscal deficit. A review by Kumar Dey Asst. (2014) titled "Income Tax Department of India: A Summary Assessment" underscores the importance of enhancing income tax revenue through measures such as expanding the tax base and simplifying tax filing procedures to address the disparity between income tax and corporate tax. Additionally, the study suggests improving tax collection efficiency through proactive measures like utilizing scientific methods to minimize delays, monitoring Tax Deducted at Source (TDS), Tax Collected at Source (TCS), and advance taxes. Furthermore, addressing tax evasion and corruption is crucial for enhancing tax compliance.

Neog & Gaur, (2020), The study suggests that policymakers should prioritize property taxes while also considering reductions in income tax to stimulate economic growth. It highlights a U-shaped relationship between tax structure and economic performance.

Sharma & Singh, (2018) The authors highlight significant implications for enhancing the responsiveness of income tax revenue performance within the dynamic and fluctuating Indian economy. The study explores the relationship between income tax revenue and various macroeconomic and governance factors, focusing on analysing income tax revenue performance in the post-liberalization (1991) era.

Shrivastava et al., (2016) In this study, the authors observed that despite numerous amendments in provisions and efforts to enhance compliance in both direct and indirect taxation, India's GDP and tax revenue collection consistently increased. They revealed that even during economic recessions, both direct and indirect tax revenues continued to rise. Specifically, they noted that the centre's tax GDP percentage surged from a low of 6.5% in the financial year 2002-03 to 46% during the financial year 2008-09.

R.V. Deshpande, (2012) As indicated in the study, there exists significant potential for enhancing revenue generation through specific direct taxes, such as agricultural income tax and land revenue. The author highlighted that the implementation of a broader tax base, anti-tax evasion measures, improved tax administration, and enhanced tax compliance have substantially contributed to increased revenue generation from both individual and corporate taxes.

3. OBJECTIVES OF THE STUDY:

- 1) To investigate the correlation between India's GDP and its fiscal deficit.
- 2) To assess the influence of direct tax collection on India's GDP.
- 3) To analyse the fluctuations in the relationship between GDP and fiscal deficit, and direct tax factors in conjunction with the number of taxpayers, return filers, and filed Income Tax Returns (ITRs), including revised filings, to identify trends.

1.1.HYPOTHESIS:

For predicting the relationship between each independent and dependent variable individually, we are proposing the proposed outcomes as follows:

H₀: Independent variable does not significantly affect the GDP.

H₁: Fiscal deficit significantly affects the GDP.

H₂: Personal Taxes significantly affect the GDP.

H₃: Corporate Taxes significantly affect the GDP.

H₄: Other Direct Taxes significantly affect the GDP.

2. RESEARCH METHODOLOGY

The study utilizes secondary data spanning a period of 19 years, starting from the financial year 2004-05 to 2022-23. This data encompasses multiple table sheets detailing aspects such as fiscal deficit, direct tax collection, contribution of direct tax collection to total tax revenue, direct tax GDP ratio, personal tax collection, corporate tax collection, other direct tax collection, number of income tax returns filed (including revised returns), number of individuals filing income tax returns (return filers), and the total number of taxpayers. The data compilation process involved gathering information from various official websites and portals associated with the Government of India.

3. METHODOLOGY

We are using three types of analysis for this study.

1. **Descriptive Statistics:** Descriptive Statistics are numbers which are used to summarise and describe the data in a meaningful way. In general, there are two ways which are used to describe the data. First is measure of central tendency which describes the central position using number of statistics including mean, median and mode and second is measure of spread which helps us to summarise how spread out these scores are, which includes range, standard deviation, variance and so on.

2. **Correlation:** It describes the association of two variables. It shows the degree to which two variables move in coordination with one another. If the two variables are moving in the same direction, they are said to have a positive correlation and if they are moving in opposite direction then they are said to have negative correlation.

3. **Ordinary Least Squares (OLS) Regression Analysis:** Linear regression is the next step after correlation. It indicates the degree for forecasting, time series modelling and finding the cause-and-effect relationship between the variables. The linear regression equation is as follows:

$Y = a + bx$ Where,

Y = Dependent variable a,

b = Constant parameters

x = Independent variable

$GDP = a + b_1 \text{FiscalDeficit} + b_2 \text{Personaltax} + b_3 \text{Corporatetax} + b_4 \text{Otherdirecttax}$

4. DATA ANALYSIS:

Table 1: Descriptive Statistics

	LOG_FISC...	LOG_COR...	LOG_GDP	LOG_OTHE...	LOG_PERS...
Mean	2.654743	5.523578	1.908303	3.069147	5.343181
Median	2.645422	5.596243	1.953270	3.012837	5.385406
Maximum	2.940018	5.916893	2.306838	4.184294	5.920805
Minimum	2.383815	4.917400	1.448324	2.380211	4.692565
Std. Dev.	0.133854	0.280806	0.247014	0.500981	0.356668
Skewness	0.198484	-0.710985	-0.343380	0.793525	-0.171952
Kurtosis	2.703615	2.641196	2.165121	3.051885	1.999365
Jarque-Bera Probability	0.194297 0.907421	1.702667 0.426845	0.925191 0.629647	1.996124 0.368593	0.886303 0.642010
Sum	50.44012	104.9480	36.25775	58.31379	101.5204
Sum Sq. Dev.	0.322502	1.419339	1.098282	4.517670	2.289818
Observations	19	19	19	19	19

Source: compiled from using E- views application

The descriptive statistics offer a detailed portrayal of the dataset's variables. The log of fiscal deficit shows a mean and median close to 2.654 and 2.645 respectively, with values ranging from 2.383 to 2.940. Its standard deviation of 0.133 indicates relatively low dispersion around the mean. The skewness value of 0.198 suggests a slight right skew, while the kurtosis value of 2.703 indicates a relatively peaked distribution. The Jarque-Bera test, with a p-value of 0.907, implies normality. On the other hand, for the log of corporate tax, both the mean and median hover around 5.523 and 5.596 respectively, with values ranging from 4.917 to 5.917. Its standard deviation of 0.280 suggests moderate variability. The skewness value of -0.710 indicates a left skew, while the kurtosis value of 2.641 suggests a peaked distribution. The Jarque-Bera test yields a p-value of 0.426, implying normality. For log GDP, the mean and median are approximately 1.908 and 1.953 respectively, with values ranging from 1.144 to 2.306. Its standard deviation of 0.247 suggests moderate dispersion. The skewness value of -0.343 suggests a slight left skew, while the kurtosis value of 2.165 indicates a relatively peaked distribution. The Jarque-Bera test yields a p-value of 0.629, implying normality. For log other direct taxes, the mean and median are both around 3.069, with values ranging from 2.380 to 4.184. Its standard deviation of 0.500 suggests relatively high variability. The skewness value of 0.793 suggests a right skew, while the kurtosis value of 3.051 indicates a relatively peaked distribution. The Jarque-Bera test yields a p-value of 0.368, implying normality. Lastly, for log personal tax, both the mean and median are approximately 5.353 and 5.385 respectively, with values ranging from 4.682 to 5.921. Its standard deviation of 0.356 suggests moderate variability. The skewness value of -0.171 suggests a slight left skew, while the kurtosis value of 1.999 indicates a relatively peaked distribution. The Jarque-Bera test yields a p-value of 0.642, implying normality. These statistics collectively provide valuable insights into the distributional characteristics of each variable, essential for understanding their behaviour and potential relationships in the regression analysis.

Table 2: correlation analysis

	LOG_FISC...	LOG_COR...	LOG_GDP	LOG_OTHE...	LOG_PERS...
LOG_...	1	0.25938482...	0.41462559...	0.10286981...	0.34677711...
LOG_...	0.25938482...	1	0.96871506...	0.69318830...	0.97134392...
LOG_...	0.41462559...	0.96871506...	1	0.68302634...	0.98288885...
LOG_...	0.10286981...	0.69318830...	0.68302634...	1	0.71935929...
LOG_...	0.34677711...	0.97134392...	0.98288885...	0.71935929...	1

Source: compiled from using E- views application

Correlation shows the association of variable and in which direction their movement is. In this study, there is Positive correlation between fiscal deficit and GDP i.e.0.141, which means the lower the fiscal deficit, the higher will be the GDP and vice versa. The GDP and Corporate tax have strong positive correlation i.e. 0.968, which means the corporate tax has very high impact on increasing the GDP. The GDP and personal tax also have strong positive correlation, which is even better than the correlation of GDP corporate tax i.e. 0.982 that shows that the higher collection of personal tax has huge positive impact on GDP. Lastly, the GDP and other direct taxes also have positive correlation i.e. 0.683 which infers that other direct taxes are also one of the factors which positively affect the GDP

The correlation matrix presents a comprehensive overview of the relationships between the variables in the dataset. Starting with log fiscal deficit, it shows moderate positive correlations with log GDP (0.414) and log personal tax (0.346), indicating that as log fiscal deficit increases, there tends to be a tendency for both log GDP and log personal tax to increase as well, although these relationships are not exceedingly strong. The correlation with log other direct taxes is notably weaker (0.102), suggesting a less pronounced association between these variables.

Table 3: Regression analysis

Dependent Variable: LOG GDP

Method: Least Squares

Date: 02/22/24 Time: 12:56

Sample: 1 19

Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG_FISCAL_DEFICIT	-0.216126	0.139168	-1.552986	0.1413
LOG_CORPORATE_TAX	-0.593080	0.207599	-2.856855	0.0120
LOG_PERSONAL_TAX	1.081480	0.214834	5.034022	0.0001
LOG_OTHER_DIRECT_TAXES	-0.006059	0.062975	-0.096209	0.9246
R-squared	0.889580	Mean dependent var		1.908303
Adjusted R-squared	0.867496	S.D. dependent var		0.247014
S.E. of regression	0.089916	Akaike info criterion		-1.795229
Sum squared resid	0.121272	Schwarz criterion		-1.596400
Log likelihood	21.05467	Hannan-Quinn criter.		-1.761579
Durbin-Watson stat	0.304456			

Source: compiled from using E- views application

R-squared or coefficient of determination is a statistical measure which determines the proportion of variance in the dependent variable that can be explained by the independent variable. R-square shows how well the data fits into regression model. In this study R-square

is 0.88958 which is considered very high and falls under acceptable range. So, we can accept this model as the model is valid.

Then we come to interpretation of coefficient and p-value. In regression with multiple independent variables, the coefficient tells us how much the dependent variable is expected to increase when the independent variable increases by one, holding all other independent variables constant.

As there is negative correlation between fiscal deficit, corporate tax, other direct tax and GDP, the coefficient value is 0.21612, 0.59308 and 0.0060 respectively, which mean that if the fiscal deficit increases by one then the GDP will decrease by 2%. The other independent variables personal tax has positive & strong correlation with GDP.

Whereas when we talk about p-value, it is said that when the p-value is below the threshold significance level (typically < 0.05), it indicates strong evidence against the null hypothesis, as there is less than a 5% probability that the null hypothesis is correct. Therefore, we reject the null hypothesis and accept the alternative hypothesis. But that does not mean that there is a 95% probability that the alternative hypothesis is true.

Whereas, when the p-value is above 0.05, it shows that it is not statistically significant and indicates strong evidence for the null hypothesis. So, we retain the null hypothesis. This is important to note here that we can never accept the null hypothesis. Either we say we reject the null hypothesis or we failed to reject the null hypothesis.

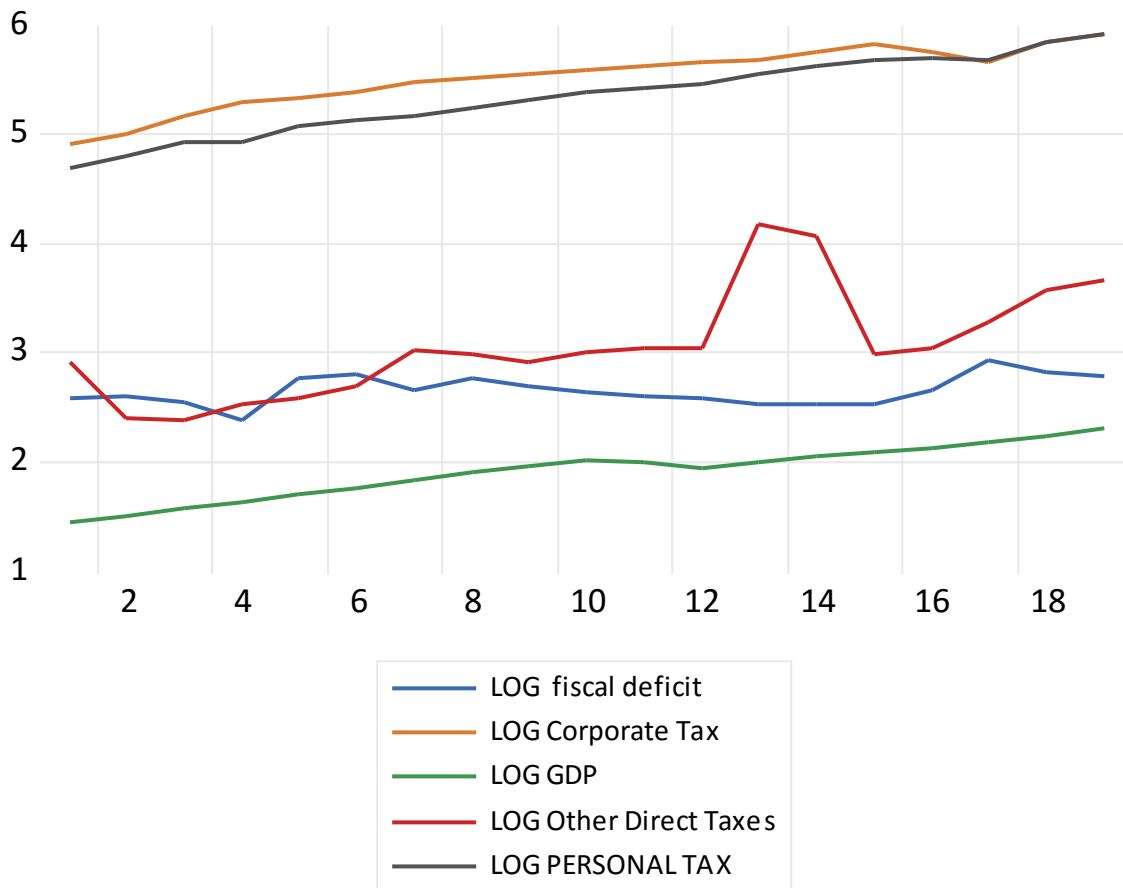
We have taken H_0 as common null hypothesis for all the alternative hypothesis i.e. H_1 , H_2 , H_3 and H_4 respectively for fiscal deficit, personal tax, corporate tax and other direct taxes.

P-value of fiscal deficit is 0.1413 i.e. more than 0.05, which means the null hypothesis (H_0) is accepted here and there is enough evidence, which means there is no significant relationship between fiscal deficit and GDP.

P-value of personal tax is 0.0001 which shows that we are rejecting null hypothesis (H_0), there is enough evidence to support the alternate hypothesis (H_2) which means there is significant relationship between personal tax and GDP.

P-value of corporate tax is 0.0120 which shows that we are rejecting the null hypothesis (H_0) in this case and there is enough evidence to support the alternate hypothesis (H_3) which means there is a significant relationship between corporate tax and GDP.

P-value of other direct tax is 0.9246 which shows that we are accepting the null hypothesis (H_0), means and there is no significant relationship between other direct tax and GDP.



5. CONCLUSION:

The study concludes that out of four independent variables taken in this study namely, fiscal deficit, personal tax, corporate tax and other direct taxes, two variables i.e. fiscal deficit and personal tax are strongly impacting the GDP of India. The fiscal deficit needs to be lessened as this will improve the GDP and measures for the same have been provided in the discussion. On the other hand, the contribution of personal tax is quite a significant one in generation of revenue to government in Indian economy and that needs to be taken care of as tax evasion and avoidance has become a bad habit of taxpayers in India. During Times now summit 2022, Prime Minister of India has expressed his concern on the topic of taxation, by providing the complete data about tax payers in the country of 130 crore people only 1.50 crore individuals are filing the income tax return, out of which only 3 lakh individuals have filed their income above rupees fifty lakh and only 2200 individuals has declared their income over one crore rupees. This shows that there is ample scope of expansion in tax base but due to lack of being a responsible citizen, either the taxpayers or the concerned officials have not taken enough care due to which the tax revenue generation is low. In my opinion, the proper education and awakening thought that what a responsible nationalist being a man of ordinary prudence is ought to do, will do favour in inculcating the habit of being honest

taxpayer. The other aspect to encourage the people to treat the nation like their home, in order to come forward to pay the taxes voluntarily and the government as well is required to provide a trustworthy environment in which government and its official, should give the guarantee to the people of India that “the genuine work will be done and taken into consideration without any delay”.

6. LIMITATIONS:

There are many factors which affect GDP but as income tax relates to my area of interest and it has huge portion of making overall revenue generation of our country so researcher conducted study on the basis of this only. So, study has certain limitations which are as follows:

The other factors which affect GDP like indirect taxes, imports, exports, financial inclusion, other non-tax revenue generating factors like tolls, octroi, etc are not taken into consideration for this study. ii. The time frame for which study has been done includes financial year 2004-05 to 2022-23 only, as the official data is available for this period only.

The further analysis of data is not taking place in this study as these tests comply with the requirements this study was done with the aim of.

7. FUTURE SCOPE OF RESEARCH:

This article was mainly focused on the impact which is posed by Income Tax on GDP. As we all know that Indirect taxes also plays vital role in the economy and Goods and Service Tax (GST) is a game changer and it is creating huge amount of revenue having better and efficient procedure as well as the outcome in the form of transparency, accountability, tax revenues and other relevant factors relating to it. So, the authors are planning to go for further study in the area, taking Goods and Service Tax (GST) as a factor which affects GDP to find out the relationship between these two factors, how GST is affecting GDP, if the changes are positive or negative and how much it is impacting. The future scope of study will be focused to be done from the date when GST came into effect in India. The study will also show the qualitative changes in the system apart from quantitative so it will be a mixed method analysis study.

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